

REMARKS

Claims 1-15 are pending in this application. By this Amendment, claims 1, 13 and 15 are amended. No new matter is added. Reconsideration in view of the foregoing amendments and the following remarks is respectfully requested.

An Information Disclosure Statement was filed on January 27, 2006. The Examiner is respectfully requested to consider the disclosed information and return initialed copies of the Form PTO-1449 attached to the Information Disclosure Statements.

The Office Action rejects claims 1-8 and 10 under 35 U.S.C. §102(e) over U.S. Patent No. 6,747,605 to Lebaric et al. (Lebaric). This rejection is respectfully traversed.

Claim 1 recites, *inter alia*, that a planer antenna element and a ground pattern contribute to radiation and are asymmetric with respect to each other. This feature is described in the specification at, for example, page 8, line 26-page 9, line 1 and page 13-line 23-page 14, line 2. That is, as described at page 13, line 23-page 14, line 2, both the planer element 1 and the ground pattern 2 contribute to radiation, and thus, these together can be considered as a dipole antenna. In addition, because the planer element 1 and the ground pattern 2 have different shapes, such an antenna formed by the planer element 1 and the ground pattern 2 may be called as an asymmetrical dipole antenna.

The Office Action alleges that the balun structure 14 of Lebaric corresponds to the recited ground pattern. However, Lebaric does not teach or suggest that the balun structure 14 contributes to radiation. As described at col. 4, lines 44-47, Lebaric teaches that balun structure 14, including tapered portions 16, 18 and lower portion 20, provides the balanced performance characteristics required of feed structures 10, 12. Moreover, at col. 5, lines 3-7, Lebaric teaches that the twin-symmetric, converging balun structure provides a transition from the unbalanced coaxial cable (or other feed configuration) to a balanced parallel strip feed line and also provides proper wideband impedance matching for the desired transceiver.

These teachings by Lebaric indicate that balun structure 14 functions for the feed structures 10, 12, and therefore, there is no teaching or suggestion that the balun structure 14 contributes to the radiation. Furthermore, Applicant respectfully submits that balun structures normally do not contribute to radiation. Instead, as clearly stated at col. 4, lines 19-29, dipoles 2, 4, 6, 8 contribute to radiation. Therefore, Lebaric does not teach or suggest that a planar antenna element and a ground pattern contribute to radiation, as recited in claim 1.

Moreover, Lebaric teaches at col. 4, lines 54-55 that feed structure 10, including the balun structure 14, is connected to the outer-grounded conductor. Lebaric also teaches at col. 4, lines 47-52 and col. 4, lines 66-col. 5, line 3 that side A of the antenna shown in his Fig. 1 is grounded. Thus, Applicant respectfully argues that consideration of only the balun structure as a ground pattern is unreasonable and that both the feed structure 10 and the balun structure 14 must be considered as a ground pattern.

Claim 1 recites that the ground pattern and the antenna element do not cover each other. As clearly shown in Fig. 1 of Lebaric, the dipole 8 and the feed structure 10 cover with each other. Accordingly, Lebaric does not teach or suggest this feature.

At least for these reasons, Applicant respectfully submits that claim 1 is patentably distinct from Lebaric. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 2-8 and 10 are allowable at least for their dependence on claim 1, as well as for the additional features they recite.

As such, withdrawal of the rejection is respectfully requested.

The Office Action rejects claims 9, 11 and 12 under 35 U.S.C. §103(a) over Lebaric in view of U.S. Patent No. 4,816,835 to Abiko et al. (Abiko). This rejection is respectfully traversed.

Abiko does not overcome the deficiencies of Lebaric with respect to claim 1. As such, claims 9, 11 and 12 are allowable at least for their dependence on allowable base claims, as well as for the additional features they recite.

The Office Action rejects claims 13-15 under 35 U.S.C. §103(a) over Lebaric in view of U.S. Patent No. 6,707,427 to Konishi et al. (Konishi). This rejection is respectfully traversed.

Claim 13 recites features similar to those of claim 1. As discussed above, Lebaric does not teach or suggest these features. Konishi does not overcome the deficiencies. As such, even combined, Lebaric and Konishi do not teach or suggest every feature of claim 13.

Moreover, Applicant respectfully submits that arguments presented in the October 3, 2005 Amendment are not fully addressed by the October 31, 2005 Office Action. MPEP §707.07(f) states that the Examiner must provide clear explanations of all actions taken by the Examiner. Therefore, the Examiner is requested to address all arguments presented by Applicant.

The Office Action continues to allege that the motivation for the combination is to minimize the insertion loss, whereby the assembling ability can be improved thus the high gain can be easily attained. However, as discussed in the October 31, 2005 Amendment, neither Lebaric nor Konishi teaches or suggests the motivation. As such, Applicant respectfully asserts that the Patent Office is relying on the hindsight knowledge gained from Applicant's disclosure. As such, the motivation for the combination is improper.

As discussed in the October 31, 2005 Amendment, because the coupling between the ground pattern and the antenna is very important in this technical field, a simple combination of references does not always realize any desired characteristics. Moreover, there is no evidence to indicate that the tapered shape of the balun structure 14 of Lebaric is effective when the balun structure 14 is formed outside of the insulating substrate 5 as a result of

combination with Konishi. MPEP §2143.02 states that in order to establish a *prima facie* case of obviousness, reasonable expectation of success is required. Therefore, the rejection is improper without provision of any suggestions or evidence.

In addition, as discussed in the October 31, 2005 Amendment, the Office Action refers to Figs. 9 and 15 of Konishi. However, Fig. 9A shows only a chip antenna, and Fig. 9B shows only a circuit diagram of a circuit equivalent to the chip antenna illustrated in Fig. 9A (col. 6, lines 39-40). Therefore, Fig. 9 does not show any physical state of the ground pattern in relation to the dielectric substrate. Moreover, there is no Fig. 15 in Konishi.

At least for these reasons, Applicant respectfully submits that claim 13 is patentably distinct from the applied art.

Claim 14 is allowable at least for its dependence on allowable claim 13, as well as for the additional feature it recites. Claim 14 recites that the ground pattern has a region to separate first and second dielectric substrates.

The Office Action refers to Fig. 6A of Konishi for its allegation of this feature. However, as discussed in the October 31, 2005 Amendment, Konishi discloses in Fig. 6A only one dielectric substrate 20 as shown in Fig. 4. Thus, Konishi does not teach or suggest that the ground pattern has a region to separate first and second dielectric substrates.

Claim 15 recites features similar to those of claim 1. As discussed above, Lebaric does not teach or suggest this feature. Konishi does not overcome the deficiency. As such, even combined, Lebaric and Konishi do not teach or suggest every feature of claim 15.

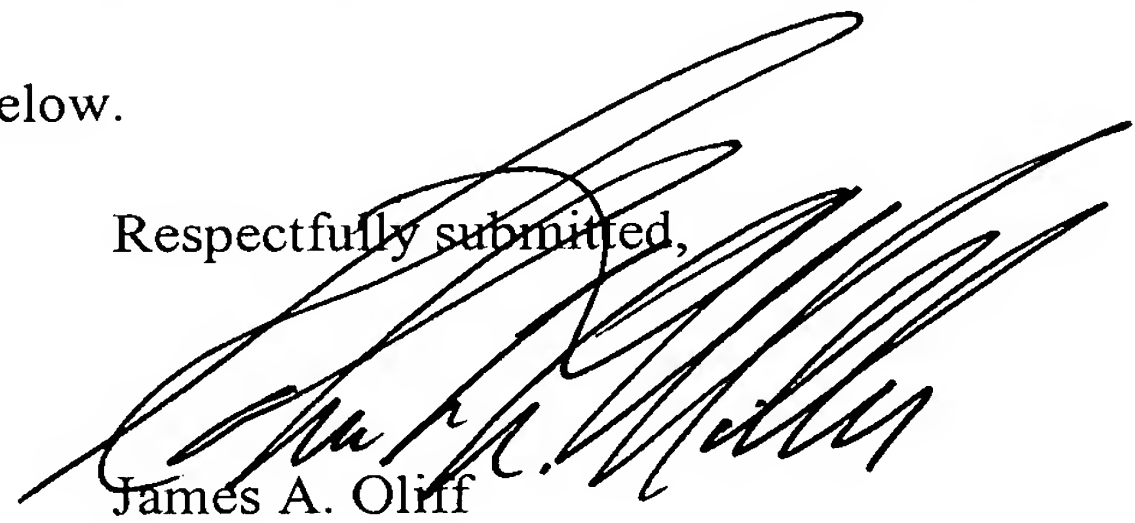
Moreover, as discussed in the October 31, 2005 Amendment, the Office Action alleges that Konishi discloses an RF circuit in Figs. 6B and 6C. However, as described at col. 6, lines 24-28 and col. 14, lines 4-18, Konishi does not disclose an RF circuit in Fig. 6B or 6C. As such, the Office Action's allegation is incorrect.

Accordingly, Applicant respectfully submits that claim 15 is patentably distinct from the applied art.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-15 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:KXH/tbh

Attachment:
Petition for Extension of Time

Date: February 28, 2006

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